

PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

REMARKS

In the final Office Action, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) as not showing every feature specified in the claims; rejected claim 24 under 35 U.S.C. § 112, first paragraph, as not complying with the written description requirement; rejected claims 1, 2, 4, 5, 8-13, and 15-19 under 35 U.S.C. § 102(e) as anticipated by MEDARD et al. (U.S. Patent No. 6,047,331); rejected claims 6 and 21 under 35 U.S.C. § 103(a) as unpatentable over MEDARD et al. in view of HSING et al. (U.S. Patent No. 6,167,025); rejected claim 3 under 35 U.S.C. § 103(a) as unpatentable over MEDARD et al. in view of OHNO (U.S. Patent No. 6,252,853); and rejected claim 7 under 35 U.S.C. § 103(a) as unpatentable over MEDARD et al. in view of OHNO, and further in view of CALLON et al., Network Working Group Internet draft, "A Framework for Multiprotocol Label Switching," November 21, 1997. The Examiner also allowed claim 14 and objected to claim 20 as containing allowable subject matter.

By way of the present amendment, Applicants propose canceling claims 5 and 7 without prejudice or disclaimer and amending claims 1, 3, 4, 8, and 17-20 to improve form. Upon entry of the present amendment, claims 1-4, 6, 8-21, and 24 would remain pending.

Applicants note with appreciation the indication that claim 14 is allowable over the art of record and that claim 20 contains allowable subject matter.

The drawings were objected to under 37 C.F.R. § 1.83 as allegedly not showing every feature specified in the claims. In particular, the Examiner alleged that the subject matter of claim 24 must be shown or the feature(s) canceled from the claim (final Office Action, pg. 2). Applicants submit that the drawings already depict the features recited in claim 24.

Claim 24 recites a network for forwarding packets from a source device to a destination

PATENT

Application Serial No. 09/354,640

Attorney Docket No. 0023-0118

device and including a plurality of intermediate network nodes. The plurality of intermediate network nodes includes at least one first node and at least one second node. The at least one first node is configured to store an initial route from the source device to the destination device and at least one alternative route from the source device to the destination device, detect a failure in a downstream network node in the initial route, and automatically forward a packet to a node on one of the at least one alternative route in response to detecting the failure. The at least one second node is configured to store the initial route, detect a failure in a downstream network node in the initial route, and forward a failure message to an upstream first node in response to detecting the failure, the failure message causing the upstream first node to automatically forward a packet to a node on one of the at least one alternative route.

Figs. 2a and 2b depict a plurality of intermediate nodes 201, 203, 205, and 207. Assume, for example, that alternative-route-enabled node 201 corresponds to the recited at least one first node and that node 203 corresponds to the at least one second node. Applicants' application describes that all nodes along the route store an initial route topology (act 335, Fig. 3b; pg. 8, lines 11-12). Applicants' application further describes that alternative-route-enabled nodes, such as node 201, store an alternative route to the destination device 110 (Figs. 2a and 2b; pg. 8, lines 22-24). Fig. 6a is a graphical representation of router information 600, including an initial route 601 and an alternative route 602, stored in the storage space within a node (pg. 11, lines 14-16).

As described with respect to Fig. 3a, when a failed route is detected and if the detecting node is alternative-route-enabled, traffic for the failed route is directed to the pre-computed alternative route stored locally at the node (acts 315, 322, and 320; pg. 8, line 30, to pg. 9, line 3). If the detecting node is not alternative-route-enabled, a failure message can be forwarded

PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

upstream to the nearest in-line alternative-route-enabled node on the initial route, which causes the alternative-route-enabled node to implement the alternative route (act 324; pg. 9, lines 3-9).

Therefore, contrary to the Examiner's allegation, the drawings support the features recited in claim 24.

For at least the foregoing reasons, Applicants respectfully request that the objection to the drawings be reconsidered and withdrawn.

Claim 24 was rejected under 35 U.S.C. § 112, first paragraph, as allegedly not complying with the written description requirement. In particular, the Examiner alleged that support for "'at least first node' doing all the things in the claim and the 'at least second node', 'forwarding a failure message to an upstream first node'" is not found in the specification (final Office Action, pg. 2). Applicants respectfully disagree.

As set forth in detail above with respect to the objection to the drawings, Applicants' specification and drawings support the combination of features recited in claim 24.

For at least the foregoing reasons, Applicants request that the rejection of claim 24 under 35 U.S.C. § 112, first paragraph, be reconsidered and withdrawn. Moreover, since no prior art has been applied against claim 24, Applicants request that claim 24 be indicated as allowable.

Claims 1, 2, 4, 5, 8-13, and 15-19 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by MEDARD et al. Applicants respectfully traverse this rejection with respect to the claims, as now amended.

A proper rejection under 35 U.S.C. § 102 requires that the reference teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. See M.P.E.P. § 2131. Applicants submit that MEDARD et al. does not

PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

disclose or suggest the combination of features recited in claims 1, 2, 4, 5, 8-13, and 15-19.

For example, amended independent claim 1 recites a network for forwarding packets from a source device to a destination device, where the network includes a plurality of network elements including a plurality of nodes and connecting links. The plurality of nodes includes at least one alternative-route-enabled node and at least one non-alternative-route-enabled node. The at least one non-alternative-route-enabled node comprises a storage space to store an initial route from the source device to the destination device; a mechanism to detect failure in a downstream network element in the initial route; and a forwarder to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node, the failure message causing the alternative-route-enabled node to begin forwarding packets on an alternative route. MEDARD et al. does not disclose or suggest this combination of features.

For example, MEDARD et al. does not disclose or suggest a forwarder to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node, where the failure message causes the alternative-route-enabled node to begin forwarding packets on an alternative route, as claimed. MEDARD et al. in no way discloses or suggests this feature. Instead, each node in MEDARD et al.'s system appears to be alternative-route-enabled nodes. See, for example, col. 9, line 66 to col. 10, line 5, of MEDARD et al. that discloses the ability of each network node 12a-12c to compute tree topologies for each source-destination pair in the network. MEDARD et al. does not disclose or suggest any of network nodes 12a-12c automatically forwarding a failure message upstream along the initial route to an alternative-route-enabled node, where the failure message causes the alternative-route-enabled node to begin forwarding packets on an alternative route, as required by amended independent claim 1.

PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

For at least the foregoing reasons, Applicants submit that claim 1 is not anticipated by MEDARD et al.

Claims 2 and 4 depend from claim 1. Therefore, Applicants submit that these claims are not anticipated by MEDARD et al. for at least the reasons given above with respect to claim 1.

Amended independent claim 8 recites a method for forwarding packets from a source device to a destination device in a network of interconnected elements including nodes and links. The method includes determining an initial route, where the initial route includes at least one alternative-route-enabled node and at least one non-alternative-route-enabled node; determining an alternative route by identifying the at least one alternative-route-enabled node in the initial route, identifying downstream interconnected elements, and generating the alternative route based on the identified one alternative-route-enabled node and the identified downstream interconnected elements; forwarding packets on the initial route; detecting a failed element; and automatically forwarding packets on the alternative route without communicating with either the source or the destination. MEDARD et al. does not disclose or suggest this combination of features.

For example, MEDARD et al. does not disclose or suggest determining an initial route, as claimed, where the initial route includes at least one alternative-route enabled node and at least one non-alternative-route-enabled node. As set forth above with respect to claim 1, MEDARD et al.'s network nodes 12a-12e appear to be alternative-route-enabled nodes. MEDARD et al. does not disclose or suggest determining an initial route that includes at least one non-alternative-route-enabled node, as required by amended independent claim 8.

PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

For at least the foregoing reasons, Applicants submit that claim 8 is not anticipated by MEDARD et al.

Claims 9-13 and 15-17 depend from claim 8. Therefore, Applicants submit that these claims are not anticipated by MEDARD et al. for at least the reasons given above with respect to claim 8.

Independent claim 18 recites features similar to those described above with respect to claim 8. Specifically, independent claim 18 recites, *inter alia*, "storing, at each of the select intermediary nodes, the alternative route" (emphasis added). MEDARD et al. discloses, in stark contrast, that all network nodes 12a-12e store redundant tree topologies (col. 12, lines 15-28). The Examiner acknowledges this fact on page 8 of the final Office Action. Since all of network nodes 12a-12e in the MEDARD et al. system are the same, none of network nodes 12a-12e would be considered a "select intermediary node," as required by Applicants' claim 18.

For at least the foregoing reasons and for reasons similar to those given above with respect to claim 8, Applicants submit that claim 18 is not anticipated by MEDARD et al.

Claim 19 depends from claim 18. Therefore, Applicants submit that this claim is not anticipated by MEDARD et al. for at least the reasons given above with respect to claim 18.

Claims 6 and 21 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over MEDARD et al. in view of HSING et al. Applicants respectfully traverse this rejection.

Claims 6 and 21 depend from claims 1 and 18, respectively. The disclosure of HSING et al. does not remedy the deficiencies in the disclosure of MEDARD et al. set forth above with respect to claims 1 and 18. Therefore, Applicants submit that claims 6 and 21 are patentable over MEDARD et al. and HSING et al., whether taken alone or in any reasonable combination,

PATENT

Application Serial No. 09/354,640

Attorney Docket No. 0023-0118

for at least the reasons given above with respect to claims 1 and 18.

Claim 3 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over MEDARD et al. in view of OHNO. Applicants respectfully traverse this rejection.

Claim 3 depends from claim 1. The disclosure of OHNO does not remedy the deficiencies in the disclosure of MEDARD et al. set forth above with respect to claim 1. Therefore, Applicants submit that claim 3 is patentable over MEDARD et al. and OHNO, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1.

Claim 7 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over MEDARD et al. in view of OHNO, and further in view of CALLON et al. Applicants respectfully traverse this rejection.

Claim 7 depends from claim 1. The disclosures of OHNO and CALLON et al. do not remedy the deficiencies in the disclosure of MEDARD et al. set forth above with respect to claim 1. Therefore, Applicants submit that claim 7 is patentable over MEDARD et al., OHNO, and CALLON et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1.

In view of the foregoing amendment and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of the present application. Applicants respectfully request that the present amendment be entered because the amendment places the application in condition for immediate allowance and reduces the issues for appeal.

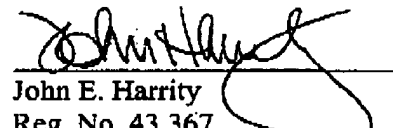
PATENT
Application Serial No. 09/354,640
Attorney Docket No. 0023-0118

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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